

REMARKS

Claims 1-14 and 16-28 are pending in this application. Claims 29-54 have been canceled without prejudice. The pending claims are attached herewith for the Examiner's convenience. Reconsideration is respectfully requested.

I. DRAWINGS

Applicants submit herewith proposed amended Figure 9 for the Examiner's consideration.

The Examiner objected to Figure 9 as allegedly there is a reference sign "97" in the Figure, which is not found in the specification. Applicants submit herewith, a proposed substitute Figure 9 wherein the number "97" has been removed from the figure. Therefore, the figure is commensurate with the description. In view of the foregoing, Applicants respectfully request that the Examiner withdraw the objection.

II. DOUBLE-PATENTING REJECTION

Claims 1-14 and 16-28 were rejected as allegedly being obvious over claims 22-26 of co-pending U.S. Patent Application No. 09/876,374. In response, Applicants respectfully traverse the rejection.

Under MPEP §804, when the Examiner becomes aware of two co-pending applications that would raise an issue of double-patenting if one of the applications became a patent, a "provisional" double patenting rejection should continue to be made by the Examiner in *each* application as long as there are conflicting claims in more than one application unless that "provisional" double patenting rejection is the *only* rejection remaining in one of the applications. If the "provisional" double patenting rejection in one application is the *only rejection* remaining in that application, the Examiner should then *withdraw that rejection* and permit the application to issue as a patent, thereby converting the "provisional" double patenting rejection in the other application(s) into a double patenting rejection at the time the one application issues as a patent.

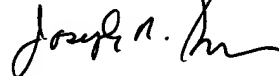
As the double patenting rejection is the only rejection remaining in the subject application, and U.S. Patent Application No. 09/876,374 is still pending, Applicants respectfully request that the Examiner withdraw this double-patenting rejection and allow the present application to issue.

Enclosed herewith is a copy of the Information Disclosure Statement filed in U.S. Patent Application No. 09/876,374, apprising the other Examiner of the existence of the present application. As the double-patenting rejection is the only rejection remaining in the present application, Applicants respectfully request that the Examiner withdraw the rejection and send this application to issue.

III. CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is urged. If the Examiner believes a telephone conference would aid in the prosecution of this case in any way, please call the undersigned at 925-472-5000.

Respectfully submitted,



Joseph R. Snyder
Reg. No. 39,381

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, 8th Floor
San Francisco, California 94111-3834
Tel: 925-472-5000
Fax: 415-576-0300
JS:js:sea
WC 9051466 v1

VERSION TO SHOW CHANGES MADE

Please cancel claims 29-54 without prejudice.

PENDING CLAIMS

1 1. (Previously Amended) A method for separating an intact NP probe from a
2 phosphate detectable moiety, said method comprising:
3 a) providing a sample comprising an intact NP probe with a detectable
4 moiety attached thereto, whereupon an enzymatic cleavage of said intact NP probe to incorporate
5 said NP probe on a primer strand hybridized to a target nucleic acid, a phosphate detectable
6 moiety is produced, wherein said phosphate detectable moiety carries a molecular charge which
7 is different than the molecular charge of said intact NP probe; and
8 b) applying an energy field to said sample, thereby separating said phosphate
9 detectable moiety from said intact NP probe.

1 2. The method according to claim 1, wherein said intact NP probe is a
2 charge-switch nucleotide phosphate probe having a detectable moiety on a terminal phosphate.

1 3. The method according to claim 2, wherein said charge-switch nucleotide
2 phosphate is a nucleotide triphosphate (NTP) having a γ -phosphate with a detectable moiety
3 attached thereto.

1 4. The method according to claim 3, wherein said γ -phosphate with a
2 detectable moiety attached thereto is a γ -phosphate with a fluorophore attached thereto.

1 5. The method according to claim 1, wherein said intact NP probe is
2 incorporated on a primer strand hybridized to a target nucleic acid using a polymerase, thereby
3 releasing said phosphate detectable moiety.

1 6. (Amended) The method according to claim 5, wherein said polymerase is
2 immobilized.

1 7. The method according to claim 1, wherein said energy field is an electric
2 field.

1 8. The method according to claim 7, wherein said electric field is a first
2 electric field applied in a transverse direction and a second energy field is applied in an axial
3 direction.

1 9. The method according to claim 8, wherein said second energy field
2 applied in said axial direction is a pressure field.

1 10. The method according to claim 1, wherein the charge of said phosphate
2 detectable moiety is greater than said intact NP probe.

1 11. The method according to claim 1, wherein the charge of said phosphate
2 detectable moiety is less than said intact NP probe.

1 12. The method according to claim 1, wherein the charge of said phosphate
2 detectable moiety is opposite in sign compared to said intact NP probe.

1 13. The method according to claim 1, further comprising c) detecting said
2 phosphate detectable moiety.

1 14. The method according to claim 13, wherein said detection is via a charge
2 coupled device (CCD) camera.

1 15. Previously Canceled.

1 16. The method according to claim 13, wherein said detection is via a
2 photodiode.

1 17. The method according to claim 13, wherein said detection is via a
2 blockade current.

1 18. (Previously Amended) A method for identifying an intact charge-switch
2 nucleotide phosphate (NP) probe, said method comprising:

3 a) contacting a sample comprising said intact charge-switch NP probe having
4 a charged moiety on the base, with an enzyme to produce a phosphate detectable moiety; and
5 b) applying an electric field to said sample, wherein said phosphate
6 detectable moiety migrates to an electrode differently than said intact charge-switch NP probe.

1 **19.** The method according to claim **18**, wherein said electrode is an anode.

1 **20.** The method according to claim **18**, wherein said electrode is a cathode.

1 **21.** The method according to claim **18**, wherein either said intact NP probe has
2 a positive molecular charge, or wherein upon cleavage of said phosphate detectable moiety, said
3 phosphate detectable moiety carries a positive charge relative to said intact NP probe.

1 **22.** The method according to claim **18**, wherein said enzyme is selected from
2 the group consisting of a DNA polymerase, a DNA dependent RNA polymerase, a reverse
3 transcriptase, a phosphodiesterase and a phosphatase.

1 **23.** The method according to claim **18**, wherein said intact charge-switch NP
2 probe is a member selected from the group consisting of a nucleotide diphosphate, a
3 deoxynucleotide triphosphate (dNTP), and a nucleotide triphosphate (NTP).

1 **24.** The method according to claim **23**, wherein said deoxynucleotide
2 triphosphate (dNTP) is a member selected from the group consisting of deoxyadenosine
3 triphosphate, deoxycytosine triphosphate, deoxyguanosine triphosphate deoxythymidine
4 triphosphate and deoxyuridine triphosphate.

1 **25.** The method according to claim **18**, wherein said phosphate detectable
2 moiety is a pyrophosphate with a fluorophore moiety attached thereto.

1 **26.** The method according to claim **25**, wherein upon cleavage of said
2 pyrophosphate fluorophore moiety, said pyrophosphate fluorophore moiety carries a positive
3 charge relative to said intact NTP probe.

1 27. The method according to claim **18**, wherein said intact NP probe has a
2 positive charge.

1 28. The method according to claim **18**, wherein said intact NP probe has a
2 negative charge.



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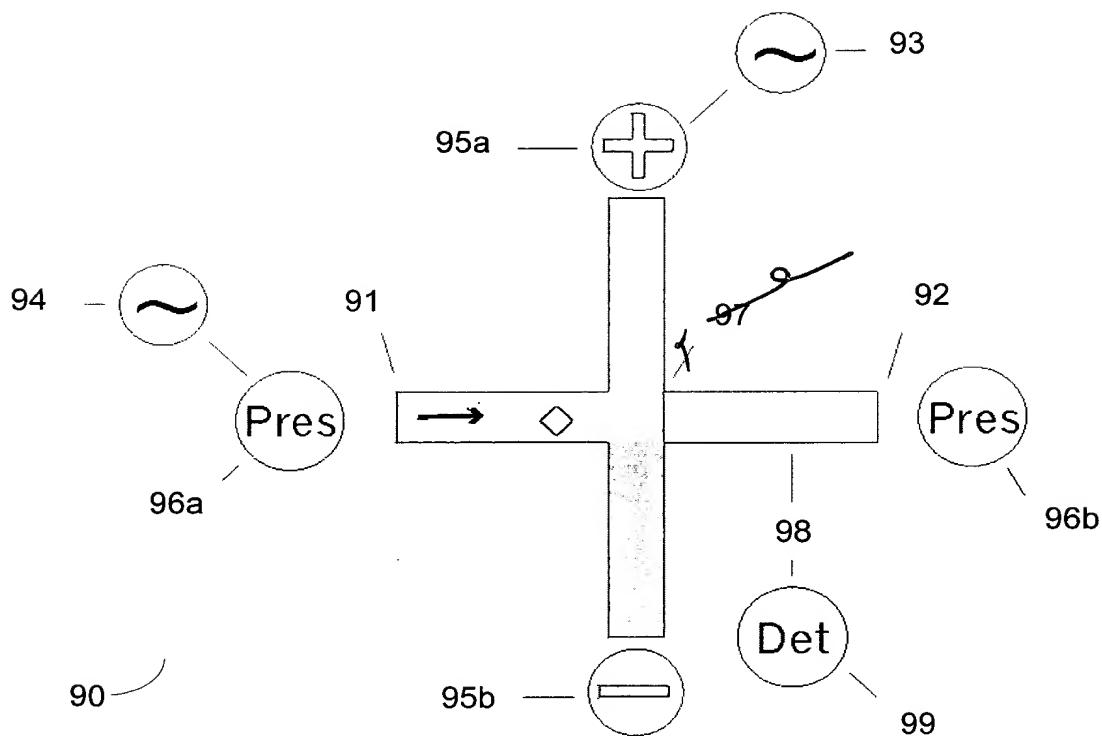


FIG. 9